Circadian Type Inventory (CTI)

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Purpose The CTI was initially developed to identify individuals capable of adapting to shift work. Thus, the scale assesses two factors that influence a person's ability to alter his or her sleeping rhythms: rigidity/flexibility of sleeping habits and ability/inability of overcome drowsiness [1]. Since its creation, the scale has undergone a number of revisions to improve its psychometric properties. An 18-item version was used as part of the larger Standard Shiftwork Index (SSI) in a study conducted by Barton and colleagues [2]. This shorter scale was then reduced and altered to make an 11 item scale by De Milia et al. [3].

Population for Testing The scale was initially validated with a population of 48 nightshift workers; it has since been analyzed in larger sample sizes using control participants as well.

Administration The CTI is a self-report, paper-and-pencil measure requiring between 5 and 10 min for completion.

Reliability and Validity The psychometric properties of the original 30-item CTI have been validated only minimally. A study by Smith and colleagues [4] found the scale to be satisfactory: Its two factors explained 27% of the variance in a population of students and its internal consistency was moderate, ranging from .58 to .74. The 18-item scale developed by Barton and colleagues [2] performed similarly, explaining 26% of the variance in the sample and demonstrating an internal reliability ranging from .73 to .79. The most recent 11-item version of the scale has proven to be the most psychometrically sound: The two factors of the scale explained 50% of the sample variance and the internal consistency ranged from .72 to .79 [5].

Obtaining a Copy An example of the scale can be found in the original article published by developers [1].

Direct correspondence to:
Simon Folkard
MRC Perceptual and Cognitive Unit,
Laboratory of Experimental Psychology
University of Sussex
Brighton, BN1 9QG, UK

Scoring Respondents use a 5-item, Likert-type scale to answer questions regarding their sleep habits and preferences. Scales range from 1 meaning "almost never," to 5 meaning "almost always." Higher scores on the rigidity subscale indicate a greater flexibility in circadian rhythm, while lower scores on the overcoming-drowsiness subscale indicate a greater ability to manage on less sleep.

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Circadian Type Questionnaire

How easy do you find it to take short "cat naps" at odd times of day?

Very easy _____ Very difficult

If you have been out very late at a party, how easy do you find it to "sleep in" the following morning if there is nothing to prevent you doing so?

Very easy _____ Very difficult

After you've had several late-nights in a row, how easy do you find it to get to sleep if you go to bed early to try to "catch up"

Very easy _____ Very difficult

Do you have phases, *i.e.* several nights in a row, when you find it difficult to get to sleep?

Seldom _____ Frequently

How easy do you find it to sleep during the day if you have to?

Very easy _____ Very difficult

Do you go to bed at a regular time and get up at a regular time even if you don't have to?

Never _____ Always

To what extent do you prefer to have your meals at regular times?

No preference _____ Strong preference

When you are away on holiday, to what extent do you stick to your normal times of getting up and going to bed?

Very different _____ Exactly the same

If you have very little sleep one night, do you feel drowsy the following day?

Very much so _____ Hardly at all

To what extent are you better at working at certain times of day or night than at others?

Very much so _____ Hardly at all

Are you the sort of person who can easily miss out a night's sleep?

Definitely not _____ Definitely

If you are woken up at an unusual time can you "wake up" properly and do whatever it is you have to do?

Only with great difficulty _____ Very easily

If you have something important to do but feel very drowsy can you overcome your drowsiness?

Only with great difficulty _____ Very easily

Do you get a "second wind" if you stay up very late?

Always _____ Never

How do you react to working at odd times of the day or night?

Enjoy it a lot _____ Dislike it a lot

Are you the sort of person who feels far livelier during the day than early in the morning or late at night?

Definitely Not _____ Definitely

If you don't have an alarm clock can you successfully "tell yourself" to wake up at a certain time?

Never _____ Always

Do you find it easy to get up every early in the morning if, for example, you are setting off on holiday?

Very Difficult _____ Very easy

When you have had to get up at a regular time for several days in a row do you start waking up just before your alarm clock goes off?

Never _____ Frequently

Toward a predictive test of adjustment to shift work. Folkard and Monk [1], reprinted by permission of the publisher (Taylor & Francis Group).

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Representative Studies Using Scale

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